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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,523	05/20/2004	Yoshinori Uzuka	1075.1263	5577
21171	7590	06/06/2007		
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER PATEL, DHIRUBHAI R	
			ART UNIT 2831	PAPER NUMBER
			MAIL DATE 06/06/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/849,523

Applicant(s)

UZUKA ET AL.

Examiner

DHIRU R. PATEL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 3/16/07 *LRB*
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1,10-11,13,15,17,19 and 21 are rejected under 35 U.S.C. § 102(b) as being anticipated by Tsuchiyama (7,119,430).

Tsuchiyama discloses:

Regarding claim 1, a spacer 3 for attaching onto a printed wiring board 1 to which is fixed an electronic component 2 having a component package 21, on one of whose surfaces a connection terminal 22 is arranged (see figured 1-2 and column 2 lines 45-67 and column 3 lines 1-25), said spacer comprising a single-piece elastic member with no ends thereof (see column 3 lines 20-25), said elastic member being detachably attached to the printed wiring board in such a way as to enclose the electronic component to seal a gap between the electronic component and the printed wiring board (see figs 1-2), and said elastic member being attached to and detached from the printed wiring board by exploiting elastic deformation of said elastic member (see entire column 3).

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**Regarding claim 10, wherein said elastic member, while in contact with the printed wiring board, is attached around the component package by pressure due to the elastic deformation of said elastic member (see figures 1-2 and entire column 3).**

**Regarding claim 11, wherein said elastic member has a cross-sectional shape with a projecting portion thereof, which projects into the gap between the electric component and the printed wiring board when said elastic member is attached to the printed wiring board (see figures 1-2).**

**Regarding claim 13, a printed circuit board, comprising:**

**an electronic component 2 having a component package 20, 21, on one of whose surfaces a connection terminal 22 is arranged (see figures 1-2 and entire columns 2-3); a printed wiring board 1 to which said electronic component is fixed; and a spacer 3 formed as a single-piece elastic member with no ends thereof detachably attached to said printed wiring board in such a way as to enclose said electronic component to seal a gap between said electronic component and said printed wiring board, said elastic member being attached to and detached from said printed wiring board by exploiting elastic deformation of the elastic member (see figures 1-2 and entire columns 3-4 and 5-8).**

**Regarding claim 15, while in contact with said printed wiring board, is attached around the component package by pressure due to the elastic deformation of the elastic member (see figures 1-2).**

**Regarding claim 17, electronic equipment, comprising a printed**

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**circuit board 1 which includes: an electronic component 2 having a component package 20, 21, on one of whose surfaces a connection terminal 22 is arranged; a printed wiring board to which the electronic component is fixed; and a spacer 3 formed as a single-piece elastic member with no ends thereof detachably attached to the printed wiring board in such a way as to enclose the electronic component to seal a gap between the electronic component and the printed wiring board, the elastic member being attached to and detached from the printed wiring board by exploiting elastic deformation of the elastic member (see figures 1-2 and entire columns 2-3 and 5-8).**

**Regarding claim 19, wherein the elastic member, while in contact with the printed wiring board, is attached around the component package by pressure due to the elastic deformation of said elastic member (see figures 1-2).**

**Regarding claim 21, an apparatus comprising: an electronic component 2; a printed wiring board 1 spaced from the electronic component to form a gap therebetween (see figure 2 and entire columns 1-3 and 5-8); and a spacer 3 selectively attached to the printed wiring board by an elastic deformation thereof to seal the gap (see fig 2), the spacer comprising a single-piece elastic member and directly contacting the printed wiring board and the electronic component (see figure 2 and entire column 3).**



***Allowable Subject Matter***

2. Claims 2, 4, 6, 8, 12, 14, 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and search in EAST, EPO, JPO, DERWENT AND PGPUB.

3. Claims 3, 5, 7, 9, 16, and 20 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reasons for the indication of the allowability of claims 3, 5, 7, 9, 16 and 20 are the inclusion therein, in combination as currently claimed, of the limitation of wherein said elastic member has a frame-like shape with an inner outline which is similar in shape and length to an outline of the component package and is thinner than the gap between the electronic component and the printed wiring board, and wherein the frame-like shape has a pair of hook portions for projecting into the gap between the electronic component and the printed wiring board, the hook portions being provided on the inner outline of the frame-like shape to oppose to each other (for claims 3, 5, 7, and 9), and wherein the elastic member has a frame-like shape with an inner outline which is similar in shape to an outline of the component package, and the elastic member, while in contact with said printed wiring board, is attached around the component package by pressure due to the elastic deformation of the elastic member, and wherein the frame-like shape has a catch protrusion on its inner outline, which catch

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**protrusion protrudes into the gap between the electronic component and said printed wiring board (for claim 16) and wherein the elastic member has a frame-like shape with an inner outline which is similar in shape to an outline of the component package, and the elastic member, while in contact with the printed wiring board, is attached around the component package by pressure due to the elastic deformation of the elastic member, and wherein the frame-like shape has a catch protrusion on its inner outline, which catch protrusion protrudes into the gap between the electronic component and the printed wiring board (for claim 20).**

**The previously listed limitation is neither disclosed nor taught by the prior art of record, alone or in combination.**

#### **Contact information**

**Any inquiry concerning this communication or earlier communications from the examiner should be directed to DHIRU R. PATEL whose telephone number is 571-272-1983. The examiner can normally be reached on M-TH, 6:30 TO 4:00.**

**If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.**

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
DHIRU R PATEL 5/26/07  
Primary Examiner  
Art Unit 2831

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